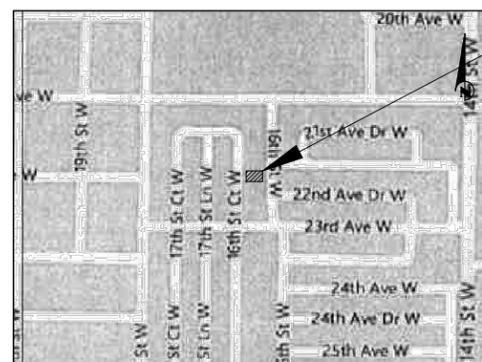




# MANATEE COUNTY, FLORIDA WARES CREEK DREDGING

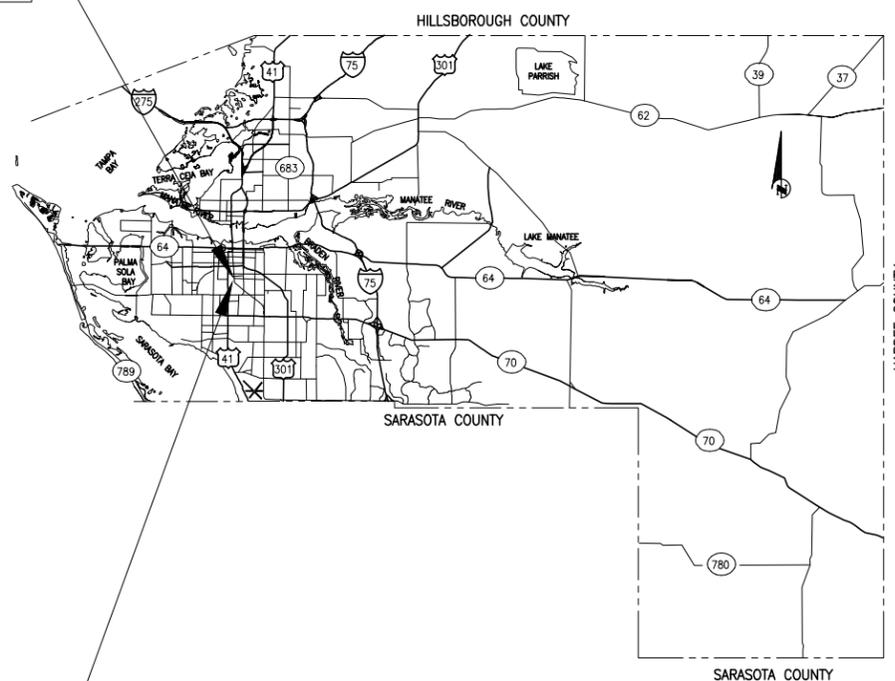
## PEDESTRIAN BRIDGE REPLACEMENT AT 22nd AVE. W. AND 25th AVE. W. 465-6028801



PROJECT SITE #1



PROJECT SITE #2



INDEX OF SHEETS		
SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES
3	C-101	SITE PLAN AND PROFILE 22nd AVE. W.
4	C-102	SITE PLAN AND PROFILE 25th AVE. W.
5	C-501	CIVIL DETAILS
6	C-502	EROSION PROTECTION PLAN
7	S-001	STRUCTURAL GENERAL NOTES AND DETAILS
8	S-101	STRUCTURAL PLANS AND SECTIONS 22nd AVE. W.
9	S-102	STRUCTURAL SECTIONS 22nd AVE. W.
10	S-103	STRUCTURAL PLANS AND SECTIONS 25th AVE. W.
11	S-104	STRUCTURAL SECTIONS 25th AVE. W.

**PROJECT DESCRIPTION**

REPLACE PEDESTRIAN BRIDGES WITH PREFABRICATED ALUMINUM BRIDGES, INCLUDING SITE PREPARATION AS REQUIRED, FOUNDATIONS, RAMPS AND/OR STAIRS, AND SIDEWALK. COORDINATION WITH DREDGING, BRIDGE SUPPLIER, RESIDENTS, CITY AND UTILITY COMPANIES REQUIRED.

SITE 1: 22ND AVE. W.  
SITE 2: 25TH AVE. W.

**FINAL SUBMITTAL**  
JANUARY 2016

A.H. EZAZI, P.E. 40109 \_\_\_\_\_  
PROJECT MANAGER DATE  
SIGNATURE \_\_\_\_\_  
60319139  
AECOM PROJECT NUMBER











**STRUCTURAL ABBREVIATIONS**

A.B.	ANCHOR BOLT	K	KIP/ 1000 POUNDS
ACI	AMERICAN CONCRETE INSTITUTE	L	ANGLE
ADD'L	ADDITIONAL	LB	POUND/ POUNDS
AFF	ABOVE FINISHED FLOOR	LLH	LONG LEG HORIZONTAL
AFG	ABOVE FINISHED GRADE	LLV	LONG LEG VERTICAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LOC	LOCATION
AISI	AMERICAN IRON AND STEEL INSTITUTE	LP	LOW POINT
ALUM	ALUMINUM	MAT'L	MATERIAL
ALT	ALTERNATE	MAX	MAXIMUM
APPROX	APPROXIMATE	MCJ	MASONRY CONTROL JOINT
ARCH	ARCHITECTURE/ ARCHITECTURAL	MECH	MECHANICAL
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	MFR	MANUFACTURER
AWS	AMERICAN WELDING SOCIETY	MID	MIDDLE
B/	BOTTOM OF	MIN	MINIMUM
BLDG	BUILDING	MISC	MISCELLANEOUS
BM	BENCH MARK	MO	MASONRY OPENING
BOT	BOTTOM	MPH	MILES PER HOUR
BP	BASE PLATE, BEARING PLATE	MWFRS	MAIN WIND FORCE RESISTING SYSTEM
BRG	BEARING	NIC	NOT IN CONTRACT
C	CHANNEL	NO	NUMBER
C&C	COMPONENTS AND CLADDING	NS	NEAR SIDE
CF	CUBIC FOOT/ CUBIC FEET	NTS	NOT TO SCALE
CHKD	CHECKED	OC	ON CENTER
CIP	CAST-IN-PLACE	OD	OUTSIDE DIAMETER
CJ	CONTRACTION JOINT	OF	OUTSIDE FACE
CLR	CLEAR/ CLEARANCE	OP	OPPOSITE HAND
CLSM	CONTROLLED LOW STRENGTH MATERIAL	OPNG	OPENING
CMU	CONCRETE MASONRY UNIT	PCF	POUNDS PER CUBIC FOOT
COEFF	COEFFICIENT	PEN	PENETRATION
CONC	CONCRETE	PJF	PREMOLDED BITUMINOUS JOINT FILLER
CONT	CONTINUOUS	PLF	POUNDS PER LINEAR FOOT
COORD	COORDINATE	PREFAB	PREFABRICATED
CSJ	CONSTRUCTION JOINT	PROJ	PROJECTION
CY	CUBIC YARD	PSF	POUNDS PER SQUARE FOOT
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIAG	DIAGONAL	PVC	POLYVINYL CHLORIDE
DIM	DIMENSION	RC	REINFORCED CONCRETE
DWG	DRAWING	RCP	REINFORCED CONCRETE PIPE
DWL	DOWEL	REINF	REINFORCEMENT
EA	EACH	REQ'D	REQUIRED
EE	EACH END	SCH	SCHEDULE
EF	EACH FACE	SCJ	SAW CUT JOINT
EL	ELEVATION	SIM	SIMILAR
ELEC	ELECTRIC/ ELECTRICAL	SOG	SLAB ON GRADE
EQ SP	EQUAL SPACING	SPEC	SPECIFICATION
ES	EACH SIDE	SQ	SQUARE
EW	EACH WAY	SS	STAINLESS STEEL
EXJ	EXPANSION JOINT	STD	STANDARD
EXP	EXPANSION	STRUCT	STRUCTURAL
EXT	EXTERIOR	SYM	SYMMETRIC
FCJ	FULL CONTRACTION JOINT	T/	TOP OF
FD	FLOOR DRAIN	T&B	TOP AND BOTTOM
FDN	FOUNDATION	TEMP	TEMPERATURE, TEMPORARY
FF	FINISH FLOOR	TOB	TOP OF BANK
FG	FINISH GRADE	TOL	TOLERANCE
FP	FULL PENETRATION WELD	TOS	TOE OF SLOPE
FS	FAR SIDE	TYP	TYPICAL
FT	FOOT/ FEET	UON	UNLESS OTHERWISE NOTED
FTG	FOOTING	VERT	VERTICAL
GA	GAGE/ GAUGE	VOL	VOLUME
GALV	GALVANIZED	W	WIDE FLANGE
GC	GENERAL CONTRACTOR	W/	WITH
HORIZ	HORIZONTAL	W/O	WITH OUT
HP	HIGH POINT	WP	WORKING POINT
HSS	HOLLOW STRUCTURAL SECTION	WS	WATERSTOP
ID	INSIDE DIAMETER	WT	WEIGHT, STRUCTURAL TEE SECTION
IF	INSIDE FACE	WWR	WELDED WIRE REINFORCEMENT
INT	INCH/ INCHES		
INT	INTERIOR		
INV	INVERT		

**STRUCTURAL NOTES**

**A. DESIGN CRITERIA**

- FLORIDA BUILDING CODE: FBC 2014.
- ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS, AND OTHER STRUCTURES.
- ACI 318-08, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- THE ALUMINUM ASSOCIATION, SPECIFICATIONS AND GUIDELINES FOR ALUMINUM STRUCTURES.
- AWS D1.2, STRUCTURAL WELDING CODE - ALUMINUM.
- AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2nd EDITION.

**B. LOADINGS**

- DEAD LOADS: MATERIAL WEIGHTS
- LIVE LOADS:
  - PEDESTRIAN LOAD 90 PSF
- WIND LOADS:
  - ULTIMATE WIND VELOCITY,  $V_{ULT}$  150 MPH
  - NOMINAL WIND VELOCITY,  $V_{ASD}$  116 MPH
  - EXPOSURE CATEGORY B
  - RISK CATEGORY II

**C. SERVICEABILITY REQUIREMENTS**

- DEFLECTION REQUIREMENTS:
  - VERTICAL SPAN/350
  - HORIZONTAL SPAN/350
- THE FUNDAMENTAL FREQUENCY OF THE UNLOADED PEDESTRIAN BRIDGE SHALL BE NO LESS THAN 3.0 HERTZ IN THE VERTICAL MODE OF VIBRATION AND 1.3 HERTZ IN THE LATERAL MODE OF VIBRATION.
- BRIDGE SHALL BE CAMBERED TO OFFSET THE DEAD LOAD.

**D. GENERAL REQUIREMENTS**

- DO NOT SCALE DRAWINGS. DIMENSIONS NOT SHOWN ON THE DRAWINGS SHALL BE VERIFIED WITH THE ENGINEER.
- SHORING REQUIRED FOR THE STABILITY OF THE UNCOMPLETED STRUCTURE OR FOR INSTALLATION OR MODIFICATION OF STRUCTURAL MEMBERS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS PRIOR TO START OF CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.
- COORDINATE FINAL SIZE AND LOCATION OF ALL ITEMS EMBEDDED INTO CONCRETE WITH THE ACTUAL EQUIPMENT SUPPLIED, PROJECT REQUIREMENTS, AND FIELD CONDITIONS.

**E. EXCAVATION AND EARTHWORK**

- REFERENCE GEOTECHNICAL ENGINEERING SERVICES REPORT, BY PROFESSIONAL SERVICE INDUSTRIES, INC., DATED MAY 29, 2014 FOR SITE EXCAVATION, FILL, AND BACKFILL RECOMMENDATIONS.
- BOTTOM OF FOUNDATION EXCAVATIONS SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR A MINIMUM DEPTH OF 1'-0" BELOW THE BOTTOM OF THE FOOTING DEPTH IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
- LOCATE ANY EXISTING UTILITY LINES AND/ OR APPURTENANCES AND ADVISE THE ENGINEER OF ANY CONFLICTS WITH NEW STRUCTURES PRIOR TO THEIR CONSTRUCTION. DO NOT DESTROY ANY EXISTING UNDERGROUND STRUCTURES WITHOUT WRITTEN AUTHORIZATION.

**F. CAST IN PLACE CONCRETE**

- ALL CONCRETE INCLUDING SLABS ON GRADE AND FOUNDATIONS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH,  $f'_c$ , OF 4000 PSI, UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.
- ALL SPLICES SHALL BE CLASS B, TENSION LAP SPLICES, UON.
- DO NOT WELD OR TACK WELD REINFORCING STEEL.
- WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM A185.

**G. STRUCTURAL ALUMINUM**

- STRUCTURAL ALUMINUM MATERIALS SHALL CONFORM TO THE STANDARDS LISTED:
  - STRUCTURAL SHAPES: B308 ALLOY 6061-T6
  - EXTRUDED PIPE: B429 ALLOY 6060-T6
  - SHEET AND PLATES: B209 ALLOY 6061-T6
- WELD ALUMINUM IN COMPLIANCE WITH AWS D1.2.
- PROVIDE GALVANIC SEPARATION BETWEEN ALUMINUM IN CONTACT WITH CONCRETE OR DISSIMILAR METALS.
- DO NOT FIELD CUT OR ALTER STRUCTURAL SHAPES WITHOUT ENGINEER'S ACCEPTANCE.
- PLACE NATURAL CAMBER OF BEAMS UPWARD.

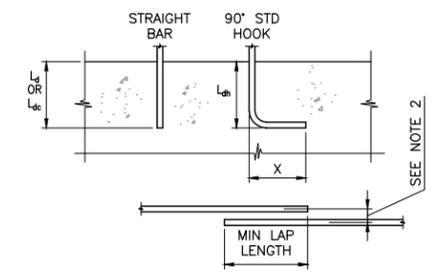
**H. FASTENERS AND ANCHORAGE**

- ANCHORING INTO CONCRETE:
  - ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 308.4 AND ICC-ES AC 308.
  - MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 308.2 AND ICC-ES AC 193.

**J. PAINTING AND COATING**

- PREPARE SURFACES TO BE PAINTED IN ACCORDANCE WITH THE PAINT MANUFACTURER'S RECOMMENDATIONS.
- PAINT CONCRETE SURFACES OF THE BRIDGE ABUTMENTS EXPOSED TO VIEW WITH (2)-4 MIL (DFT) COATS OF METALATEX SEMI-GLOSS COATING BY SHERWIN WILLIAMS, OR EQUAL.
- COLOR TO BE SELECTED BY OWNER.

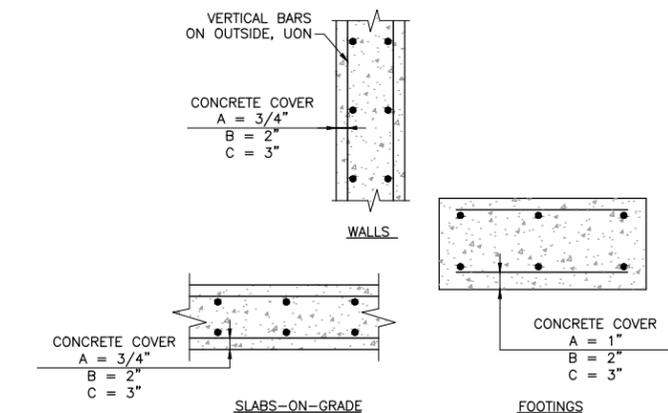
BAR SIZE	BAR DIAMETER ( $d_b$ )	DEFORMED BARS IN TENSION					
		DEVELOPMENT LENGTH ( $L_d$ )		CLASS B LAP SPlice		90° STD HOOK	180° STD HOOK
		TOP BARS	OTHER	TOP BARS	OTHER	H O K X	L <sub>dh</sub> Y
#3	0.375	12	12	16	16	6	6
#4	0.5	16	12	20	16	8	7
#5	0.625	20	16	24	20	10	9
#6	0.75	22	18	30	22	12	11



**NOTES:**

- TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR LAP SPlice.
- BARs BEING DEVELOPED OR SPLICED SHALL MEET THE FOLLOWING:
  - CLEAR SPACING NOT GREATER THAN 6 INCHES OR 1/5 MIN LAP LENGTH.
  - CLEAR COVER NOT LESS THAN  $2d_b$ , UNLESS OTHERWISE NOTED.
- THE TABLE ABOVE IS BASED ON 4000 PSI COMPRESSIVE STRENGTH CONCRETE.

**1 DEVELOPMENT AND SPLICES OF REINFORCEMENT**  
SCALE: NTS



A = NO EXPOSURE TO GROUND OR WEATHER AFTER FORM REMOVAL.  
B = EXPOSURE TO GROUND OR WEATHER AFTER FORM REMOVAL.  
C = CONCRETE PLACED AGAINST GROUND.

**2 CONCRETE PROTECTION FOR REINFORCEMENT**  
SCALE: NTS

FILE NAME: Y:\SE SUPPORT SERVICES\PROJECTS\60319139 - WARES CREEK PEDESTRIAN BRIDGES\000\_CAD\SHEETS\SS-001.DWG LAST SAVED BY: WASHMUTHM PLOT DATE: 12/23/2015 4:37:13 PM

MARK	DESCRIPTION	APP	DATE

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PROJECT ENGINEER:  
KHALID MOTIAWALA

REG NUMBER:  
50633

MANATEE COUNTY  
WARES CREEK PEDESTRIAN BRIDGES

**STRUTURAL GENERAL NOTES AND DETAILS**

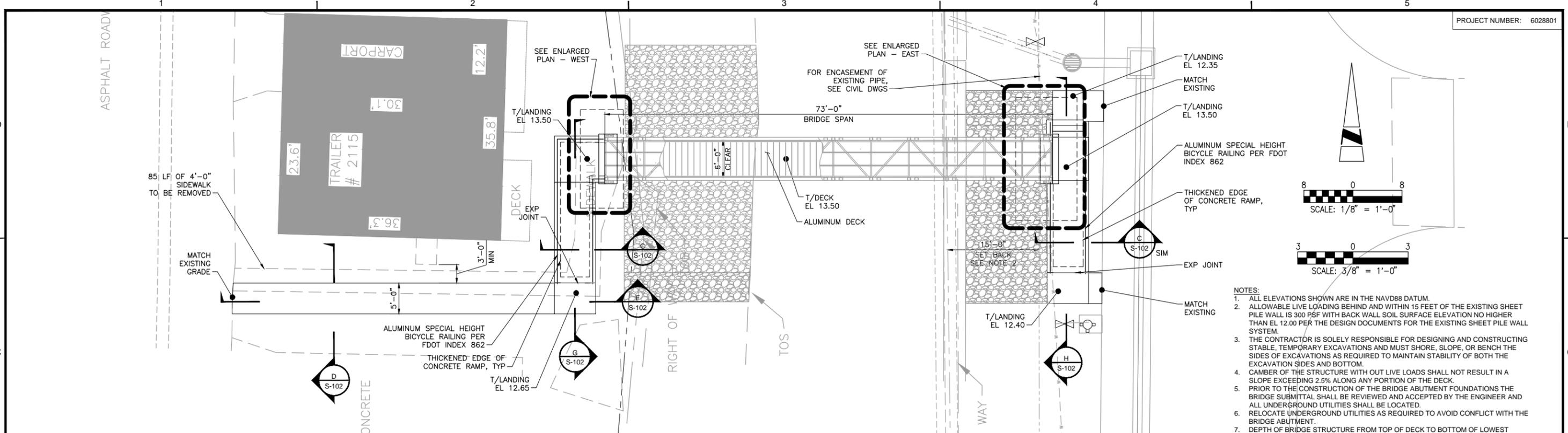
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MDW	MDW	KM	DEC-15

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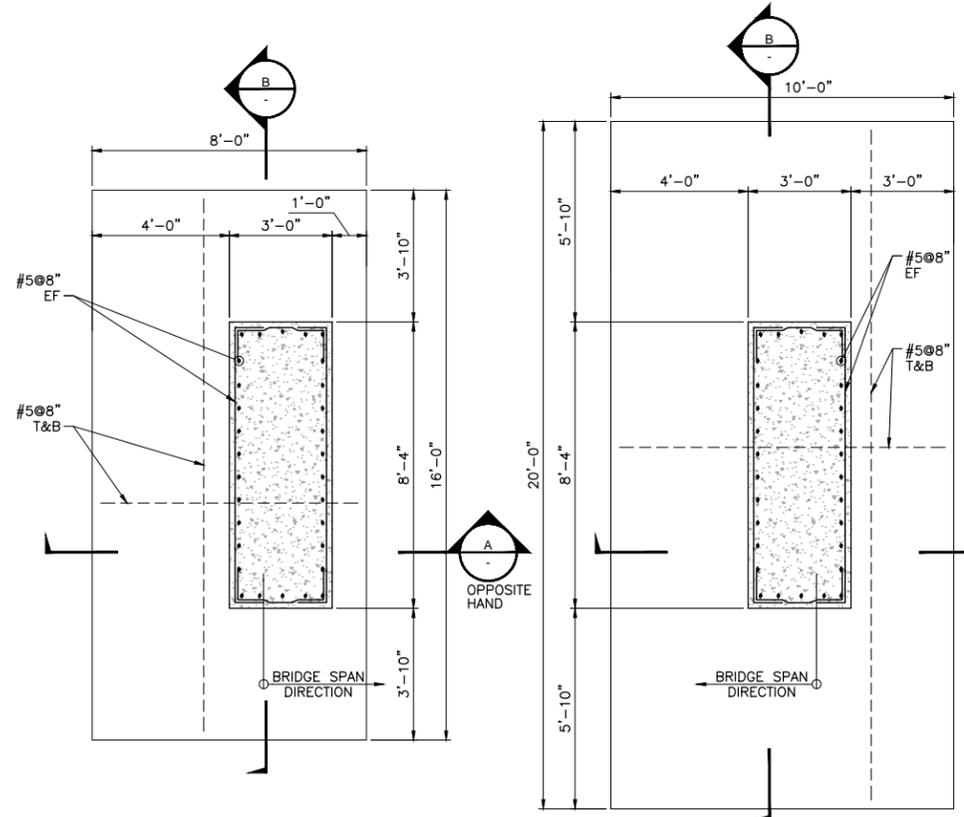
DRAWING NUMBER:  
**S-001**

SHEET 7 OF 11



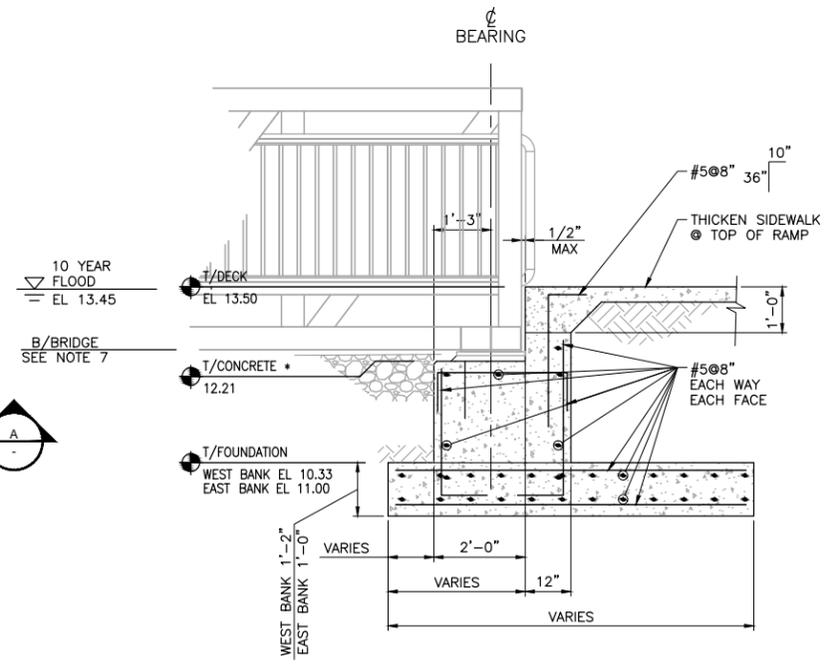
- NOTES:
1. ALL ELEVATIONS SHOWN ARE IN THE NAVD88 DATUM.
  2. ALLOWABLE LIVE LOADING BEHIND AND WITHIN 15 FEET OF THE EXISTING SHEET PILE WALL IS 300 PSF WITH BACK WALL SOIL SURFACE ELEVATION NO HIGHER THAN EL 12.00 PER THE DESIGN DOCUMENTS FOR THE EXISTING SHEET PILE WALL SYSTEM.
  3. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND CONSTRUCTING STABLE, TEMPORARY EXCAVATIONS AND MUST SHORE, SLOPE, OR BENCH THE SIDES OF EXCAVATIONS AS REQUIRED TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM.
  4. CAMBER OF THE STRUCTURE WITH OUT LIVE LOADS SHALL NOT RESULT IN A SLOPE EXCEEDING 2.5% ALONG ANY PORTION OF THE DECK.
  5. PRIOR TO THE CONSTRUCTION OF THE BRIDGE ABUTMENT FOUNDATIONS THE BRIDGE SUBMITTAL SHALL BE REVIEWED AND ACCEPTED BY THE ENGINEER AND ALL UNDERGROUND UTILITIES SHALL BE LOCATED.
  6. RELOCATE UNDERGROUND UTILITIES AS REQUIRED TO AVOID CONFLICT WITH THE BRIDGE ABUTMENT.
  7. DEPTH OF BRIDGE STRUCTURE FROM TOP OF DECK TO BOTTOM OF LOWEST CHORD IS ASSUMED TO BE 1'-2" MAX. BRIDGE SUPPLIER TO PROVIDE 1'-2" MAX DEPTH FROM TOP OF DECK TO BOTTOM OF LOWEST CHORD.
  8. BRIDGE SYSTEM IS DESIGNED FOR THE 10-YEAR FLOOD ELEVATION = 13.45'.
  9. \* DENOTES ELEVATION TO BE VERIFIED AND COORDINATED WITH BRIDGE SUPPLIER.

**22ND AVE PEDESTRIAN BRIDGE CROSSING**  
SCALE: 1/8" = 1'-0"

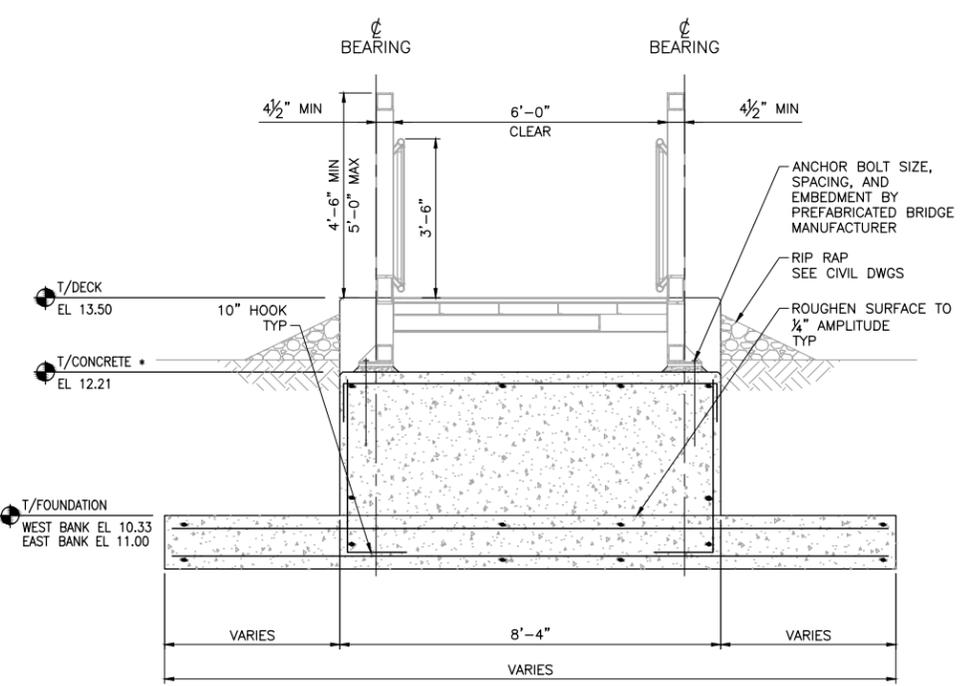


**ENLARGED PLAN - WEST**  
SCALE: 3/8" = 1'-0"

**ENLARGED PLAN - EAST**  
SCALE: 3/8" = 1'-0"



**A SECTION**  
SCALE: NTS



**B SECTION**  
SCALE: NTS

FILE NAME: Y:\SE SUPPORT SERVICES\PROJECTS\60319139 - WARES CREEK PEDESTRIAN BRIDGES\000\_CADD\SHEETS\S101.DWG LAST SAVED BY: WASHMUTHM PLOT DATE: 12/30/2015 2:47:28 PM

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MANATEE COUNTY  
WARES CREEK PEDESTRIAN BRIDGES

STRUTRAL LANS AN SE TIONS N A E

DRN	DSN	CHK	DATE
MDW	MDW	---	DEC-15

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PROJECT NUMBER: 60319139  
DRAWING NUMBER:  
**S-101**  
SHEET 8 OF 10





